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ABSTRACT

This paper recommends new strategies in the use of data in monitoring enrollment distribution, retention, and graduation rates of minority students in predominantly white colleges. Surveys of current literature show there are three significant questions: (1) Who drops out? (2) Why do they drop out? and (3) How can the overall dropout rate be reduced? The Data-Driven Minority Student Retention Model addresses these questions by utilizing a comprehensive approach that provides for use of data in improving retention and graduation rates of minority populations. The data collection and formating component of the model establishes a comprehensive and accurate data retrieval system for determining application, acceptance, and admission rates; academic strategy profiles; classification profiles; longitudinal program profiles; and graduation rates. The Computerized Academic Monitoring System component is the major force behind the early identification of students with academic difficulties during the first third of the term in selected courses. This system provides for the instructors' identification of students with poor marks and a follow-up communication system for contacting and assisting students. The adoption and effective implementation of the Data-Driven Retention Model should significantly improve the retention and graduation rates of minority students in higher education institutions. (Author/MK)

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DEVELOPING A DATA-DRIVEN RETENTION MODEL FOR IMPROVING MINORITY STUDENT PERSISTENCE IN PREDOMINANTLY WHITE AND HISTORICALLY BLACK COLLEGES

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DEVELOPING A DATA-DRIVEN RETENTION MODEL FOR IMPROVING MINORITY STUDENT PERSISTENCE IN PREDOMINANTLY WHITE AND HISTORICALLY BLACK COLLEGES

In the early 1970's the decline in college enrollment throughout the United States focused the attention of both administrators and educators on student retention. The specific purpose of this paper is to recommend new strategies in the use of data in monitoring enrollment distribution, retention, and graduation rates of minority students in predominantly white colleges. A review of the scholarly research in probably the most critical area, retention, is presented to provide an overview of the breadth and depth of this educational problem. Surveys of the current literature thus show that there are three significant questions: 1) Who drops out of college? 2) Why do they drop out? and 3) How can the overall dropout rate be reduced?

The Data-Driven Minority Student Retention Model addresses these questions by utilizing a comprehensive approach that provide for the use of data in improving the retention and graduation rates of minorities and non-traditional student populations in both predominantly white and historically black colleges and universities.

The two most critical components of the retention model will be discussed in this paper, namely, 1) *Data Collection and Formating* and 2) the *Computerized Academic Monitoring System (CAMS)*. The first component establishes a comprehensive and accurate data retrieval system for determining the following:

a) application, acceptance, and admission rates

b) academic strategy profile

c) classification profile

d) longitudinal program profile and

e) graduation rates

The second component, the Computerized Academic Monitoring System, is the major force in the retention effort in the early identification of students with academic problems during the first third of the term in selected courses. This system provides for the instructor's identification of students with poor marks and a follow-up communication system for contacting and assisting students.

The adoption and effective implementation of the Data-Driven Retention Model should significantly improve the retention and graduation rates of minority students in higher education institutions.

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BACKGROUND

Essential to the development and implementation of a data-driven retention model in any institution is the acquisition of accurate national and local data on the specific student population upon which an individual researcher or institution wishes to focus. Yet retention data on minority and non-traditional students enrolled in the nation's colleges and universities continue to be minimal. Although some work has been done in the general area of college student attrition by such researchers as Astin (1975), El-Khawas and Bisconti (1974), Sigler (1976), Schulman (1976), and Newcomb and Flack (1964), few studies have concentrated on minority student retention.

However, some data are beginning to appear. Following are some references to these data and the researchers involved. A report by Egerton (1975) on persistence and graduation rates revealed that:

> Of every 100 white 18 year olds in the United States, about 75 finish high school, about 45 enter college, and about 15 earn a baccalaureate degree; of every 100 black 18 year olds, about 65 finish high school, approximately 30 enter college, and only about 5 earn a degree. (pp. 4-5)

A more recent report by the National Advisory Committee on Black Higher Education and Black Colleges and Universities entitled *Access of Black Americans to Higher Education: How Open Is the Door?* (1979) speaks to the issue of attrition at the secondary

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school level and the potential pool of college age black youth. Specifically, the report notes that:

1. More Black students had dropped out of high school than had enrolled in college in 1977. Although the degree to which this occurred was less than what was experienced in 1967, it was still dissimilar to the situation for their white counterparts.

2. The October 1977 data indicate that one of every four Black persons between the ages of 18 and 24 had not attained the minimal educational goal--a high school diploma--and were not pursuing it. (p. 4)

Another recent national study by the Research Triangle Institute of North Carolina revealed that college dropout rates were higher for blacks and Hispanics than for whites in the class of 1972. This follow-up study of 20,000 high school graduates indicated the following dropout vs. college graduation rates after four years:

	Dropout Rate	Graduation Rate
Black Men	43%	27%
Black Women	46%	32%
Hispanic Men	57%	14%
Hispanic Women	54%	18%
White Men	34%	36%
White Women	34%	46%

Similarly, an in-depth local study conducted on the academic status of minority students at a major Southeastern university showed that of the first-time freshmen in 1974, a year later 14 percent of the blacks enrolled had been dismissed for academic reasons, as compared to 3 percent for white students, and 4 percent for the university as a whole; the overall dropout rate (for both academic and non-academic reasons) was 27% for blacks, 18 percent for whites, and 21 percent for the university as a whole. (Goodrich, 1975)

Improving minority student persistence rates in predominantly white colleges and universities also dictates that the researcher collect and analyze data on the quality or distribution of minority undergraduate enrollment. *Quality of enrollment* is defined as the distribution of minority enrollment across and between academic disciplines, with a special focus on those areas where, historically, there has been serious minority underrepresentation--i.e., engineering, architecture, physical sciences, and pre-professional areas. A national study by Boyd in 1973, depicting the undergraduate enrollment of blacks, revealed that:

- 28% enrolled in social sciences
- 15% enrolled in education
- 15% enrolled in business
- 6% enrolled in biological sciences
- 4% enrolled in engineering and mathematics
- 2% enrolled in physical sciences

A similar study completed by the National Advisory Committee on Black Higher Education and Black Colleges and Universities cites the percentage distribution of degrees awarded in 1975-76 by major fields to black students vs. all students. A striking statistical difference, presently reflected in the black professional work force, is the high concentration in education. Specifically, 24% of blacks who received baccalaureates, 61.1% who received master's degrees, and 55.2% who received doctorates received them in the field of education; in contrast, the respective percentages for all students were 16.9%, baccalaureates; 41.4%, master's; and 23%, Ph.D.'s. In the field of engineering, however, the statistical pattern is reversed. The percentages for all students were 4.9% who received baccalaureates in

engineering; 5.1%, master's degrees; and 8.3% doctorates; respective percentages for blacks were 2.3%, baccalaureates; 1.1%, master's degrees, and 1.6% doctorates. (*Higher Education Equity*, p. 24)

Additional enrollment distribution data on blacks have been analyzed by Thomas (1978) as to black vs. white choices of major fields by geographical region of the country and by type of institution attended, i.e. two year vs. four year and historically black vs. predominantly white four-year colleges. For example,

- Whereas the number of black and white males in the Northeast who major in education is almost identical (6.2% black, 6.3% white), in the South the number of black males who select education is almost triple that of white males (17.3% black, 7.7% white).

- In four year colleges, blacks enrolled in traditionally black colleges selected education as a major almost twice as frequently as did their counterparts in non-traditionally black colleges (29.66% compared to 15.84%). Yet in the pre-professional fields, such as pre-law, pre-medicine, and pharmacy, the percentage at both types of schools remained a low 1.68% at traditionally black colleges and a 3.53% at non-traditionally black colleges. (Appendix, Tables 4 and 9)

Presentation of the preceding data and information is designed to isolate areas critical to the establishment of a broad conceptual framework for developing the data-driven retention model under discussion here.

Rationale

In view of the *high attrition* and *low graduation* rates for minorities in predominantly white colleges, the need for the employment of fresh initiatives and new strategies for the use of data in monitoring minority student enrollment, retention, and graduation

rates is obvious. The *Data-Driven Minority Student Retention Model* utilizes a comprehensive approach that includes six components: *1) Data Collection and Formating, 2) Computerized Academic Monitoring System, 3) Academic Articulation and Retention Committees, 4) Minority Retention Workshop, 5) Minority Pre-Professional Academic Societies, and 6) Follow-Up/Evaluation.* The model provides for the use of data in improving the retention and graduation rates of minority and non-traditional student populations. Specifically, it

1. enables university administrators to pinpoint problem areas and identify potential solutions regarding minority student enrollment and enrollment distribution;
2. enables administrators to monitor the academic status of minority students;
3. serves as a resource in identifying needs for improved advisement, expanded support services, and new academic courses; and
4. serves as a tool for recommending changes in university policies and procedures that impact negatively on minority student retention.

For purposes of this paper, however, only the two most critical components will be described: *Data Collection and Formating* and the *Computerized Academic Monitoring System (CAMS).**

DATA COLLECTION AND FORMATING

The collection and reporting of data regarding the *enrollment* and *academic status* of minority students is the most essential operation in the data-driven retention model. One must first ensure that the data collected are *accurate*. Unfortunately,

*The remaining four components will be described in a chapter to be included in a fall publication on Black Students on White Campuses; and in a workshop handbook prepared for the *First National Workshop on Minority Student Retention* that will be convened by the author on November 7-9, 1979, in Atlanta, Georgia.

accuracy has not been a consistent characteristic of data reported by colleges with respect to minority student enrollment. On campuses where data are collected and housed in several offices, i.e. Admissions, Data Process, and Academic Planning, wide discrepancies often exist in the data on minority students. In such cases, a committee consisting of representatives from these offices should be convened to determine the reasons for these discrepancies so that appropriate corrections can be made.

Among some of the major reasons for the existence of inaccurate data that colleges collect and report on minorities are the following:

1. The institution's inability or failure to establish a system for distinguishing between citizens vs. non-citizens. Quite often, institutions lump blacks and other non-citizen minorities with minority citizens, thus seriously inflating and distorting the data.

2. The institution's inability or failure to establish a system for identifying students by race, sex, classification, major, college/division/department, etc.

3. The institution's inability or failure to make a distinction between transfer students from a junior college, from a four year college within the state, or from a four year college outside the state system.

These are just three examples peculiar to some institutions that have not yet made the gathering and reporting of clean data a major priority.

Once a sound and accurate data base is established, the office(s) responsible for collecting, formating, and reporting these data should develop a list of data elements needed by the institution for analysis and reporting purposes. At a minimum, key baseline data must include the collection and maintenance of information

in the following categories: 1) enrollment, 2) academic status by division and department, 3) student classification profile, 4) longitudinal student progression profile, and 5) graduation rates. Examples of data formating are also presented in each of the above categories.

Enrollment Data (Including Application, Acceptance, and Admission)

The first and probably most important part of the data gathering process is the collection of enrollment data by racial/ethnic group. Depending on the needs and data collection objectives of the institution, information on the level of applications and acceptance rates can also be monitored. The following table represents one approach to collecting and reporting data on first-time students, i.e. freshmen and transfer students from within and from outside the state.

(Note to Publisher: Reduce Table I and insert here.)

TABLE I

APPLICATION, ACCEPTANCE, AND ADMISSION: FALL, 1975

UNDERGRADUATES	BLACK	AMERICAN INDIAN	ASIAN AMERICAN	SPANISH AMERICAN	WHITE	UNKNOWN	TOTAL
APPLICANTS FOR FIRST TIME ADMISSION							
A. FROM WITHIN STATE							
(i) No. of applicants	896	155	114	79	6705	751	8707
(ii) No. accepted	665	132	112	70	6262	634	7879
(iii) % applicants accepted	(74.2)	(85.2)	(98.2)	(88.6)	(93.4)	(84.4)	(90.5)
(iv) No. enrolled	356	72	69	43	3637	272	4503
(v) % accepted applicants who enrolled	(53.5)	(54.5)	(61.6)	(61.4)	(58.9)	(42.9)	(57.2)
B. FROM OUTSIDE OF STATE BUT WITHIN U.S.							
(i) No. of applicants	556	103	28	53	2674	530	3945
(ii) No. accepted	331	71	23	35	2228	375	3063
(iii) % applicants accepted	(59.5)	(68.9)	(82.1)	(66.0)	(83.3)	(70.8)	(77.6)
(iv) No. enrolled	128	29	8	10	681	74	930
(v) % of accepted applicants who enrolled	(38.7)	(40.8)	(34.8)	(28.6)	(30.6)	(19.7)	(30.4)

TABLE I (Cont.)

APPLICATION, ACCEPTANCE, AND ADMISSION: FALL, 1975

UNDERGRADUATES	BLACK	AMERICAN INDIAN	ASIAN AMERICAN	SPANISH AMERICAN	WHITE	UNKNOWN	TOTAL
TRANSFER STUDENTS							
A. TRANSFERS FROM OTHER							
(i) No. of applicants	280	102	39	64	3547	517	4552
(ii) No. accepted	220	86	31	53	3209	448	4049
(iii) % applicants accepted	(78.6)	(84.3)	(79.5)	(82.8)	(90.5)	(86.6)	(88.9)
(iv) No. enrolled	145	57	25	38	2235	273	2775
(v) % accepted applicants who enrolled	(65.9)	(66.3)	(80.6)	(71.7)	(69.6)	(60.9)	(68.5)
B. TRANSFERS FROM OUTSIDE THE STATE, BUT WITHIN THE UNITED STATES							
(i) No. of applicants	121	43	13	22	1256	231	1687
(ii) No. accepted	80	33	12	21	1079	188	1413
(iii) % of applicants accepted	(66.1)	(76.7)	(92.3)	(95.4)	(85.9)	(81.4)	(83.8)
(iv) No. enrolled	45	11	3	8	464	63	594
(v) % accepted applicants who enrolled	(56.2)	(33.3)	(25.0)	(38.1)	(43.0)	(33.5)	(42.0)

Academic Status Profile by Division and Department

Periodic (quarterly/semester) data depicting the academic status of minority students is essential to developing a substantive data base for monitoring minority student retention. To develop this segment of the data base, information should be collected reflecting *1) enrollment, 2) good academic standing, 3) academic dismissal, and 4) probation rates* by race and citizenship status. The following charts are examples of how these data can be formated for two different divisions and departments.

(Note to Publisher: Reduce Table II and insert here.)

TABLE II

DIVISION:
ARTS AND SCIENCES

ACADEMIC STATUS PROFILE BY DIVISION AND DEPARTMENT

DEPARTMENT	STATUS	WHITE		BLACK		ASIAN AMERICAN		SPANISH AMERICAN		AMERICAN INDIAN		UNKNOWN		TOTAL
ARCHITECTURE	Enrollment	252	(81.3)	11	(3.5)	7	(2.2)	5	(1.6)	1	(0.3)	17	(5.5)	310
	Good Standing	224	(88.9)	7	(63.6)	7	(100.0)	5	(100.0)	1	(100.0)	12	(70.6)	270
	Dismissal	1	(0.4)	1	(9.1)	0	-	0	-	0	-	0	(0.0)	2
	Probation	26	(10.3)	3	(27.3)	0	-	0	-	0	-	5	(29.4)	37
JOURNALISM	Enrollment	479	(76.0)	77	(12.2)	7	(1.1)	4	(0.6)	4	(0.6)	52	(8.2)	630
	Good Standing	432	(90.2)	54	(70.1)	7	(100.0)	2	(50.0)	4	(100.0)	45	(86.5)	547
	Dismissal	4	(0.8)	1	(1.3)	0	-	0	(0.0)	0	-	0	(0.0)	6
	Probation	42	(8.8)	21	(27.3)	0	-	2	(50.0)	0	-	7	(13.5)	75
SPEECH, RADIO, AND TELEVISION	Enrollment	345	(76.3)	49	(10.8)	5	(1.1)	3	(0.7)	9	(2.0)	38	(8.4)	452
	Good Standing	306	(88.7)	40	(81.6)	5	(100.0)	2	(66.7)	8	(88.9)	32	(84.2)	395
	Dismissal	3	(0.9)	3	(6.1)	0	-	0	(0.0)	0	(0.0)	2	(5.3)	8
	Probation	36	(10.4)	6	(12.2)	0	-	1	(33.3)	1	(11.1)	4	(10.5)	49
ENGLISH	Enrollment	407	(81.1)	15	(3.0)	4	(0.8)	4	(0.8)	3	(0.6)	59	(11.8)	502
	Good Standing	379	(93.1)	14	(93.3)	4	(100.0)	4	(100.0)	3	(100.0)	50	(84.7)	464
	Dismissal	9	(2.2)	0	(0.0)	0	-	0	-	0	-	1	(1.7)	10
	Probation	14	(3.4)	1	(6.7)	0	-	0	-	0	-	7	(11.9)	22
HISTORY	Enrollment	329	(84.4)	17	(4.4)	5	(1.5)	0	-	3	(0.8)	34	(8.7)	390
	Good Standing	290	(88.1)	16	(94.1)	5	(100.0)	-	-	3	(100.0)	29	(85.3)	345
	Dismissal	7	(2.1)	0	(0.0)	0	-	-	-	0	-	4	(11.8)	11
	Probation	30	(9.1)	1	(5.9)	0	-	-	-	0	-	1	(2.9)	32

Foreigners included in TOTALS ONLY.

TABLE II (Cont.)

DIVISION:
SOCIAL & BEHAVIORAL SCIENCES

ACADEMIC STATUS BY DIVISION AND DEPARTMENT

DEPARTMENT	STATUS	WHITE		BLACK		ASIAN AMERICAN		SPANISH AMERICAN		AMERICAN INDIAN		UNKNOWN		TOTAL
BUSINESS ADMINISTRATION	*Enrollment*	588	75.8%	40	5.2%	13	1.7%	6	0.8%	15	1.9%	91	11.7%	776
	Good Standing	501	85.2%	30	75.0%	11	84.6%	4	66.7%	13	86.7%	66	72.5%	
	Dismissal	19	3.2%									7	7.7%	27
	Probation	65	11.0%	10	25.0%	2	15.4%	2	33.3%	2	13.3%	17	18.7%	103
COLLEGE OF BUSINESS & MANAGEMENT SUMMARY	*Enrollment*	2462	77.3%	201	6.3%	48	1.5%	31	1.0%	44	1.4%	300	9.7%	3134
	Good Standing	2108	85.6%	132	65.7%	38	79.2%	24	77.4%	36	81.8%			
	Dismissal	44	1.8%	8	4.0%	2	4.2%	3	9.7%			19	6.3%	78
	Probation	304	12.3%	60	29.8%	8	16.7%	4	12.9%	7	16.0%	62	20.7%	463
HEARING & SPEECH	*Enrollment*	204	79.4%	24	9.3%	1	0.4%	1	0.4%	4	1.6%	20	7.8%	257
	Good Standing	198	97.0%	20	83.3%	1	100.0%	1	100.0%	3	75.0%	18	90.0%	
	Dismissal	1	0.5%		0		0		0		0			1
	Probation	5	2.4%	4	16.7%		0		0	1	25.0%	2	10.0%	12
PSYCHOLOGY	*Enrollment*	711	76.3%	87	9.3%	11	1.2%	9	1.0%	12	1.3%	88	9.4%	932
	Good Standing	623	87.6%	67	77.0%	10	90.9%	8	88.9%	8	66.7%	70	79.5%	
	Dismissal	11	1.5%	2	2.3%		0		0		0	1	1.1%	16
	Probation	70	9.8%	18	20.7%	1	0	1	0	4	33.3%	13	14.8%	108
LAW ENFORCEMENT	*Enrollment*	250	79.9%	20	6.4%	1	3	0	0	4	1.3%	36	11.5%	313
	Good Standing	212	84.8%	13	65.0%	1	100.0%	0	0	4	100.0%	29	80.6%	
	Dismissal	6	2.4%	1	5.0%		0		0		0	1	2.8%	8
	Probation	31	12.4%	5	25.0%		0		0		0	6	16.7%	42

Student Classification Profile

Student classification data should provide a comprehensive overview of the level of minority full-time representation for first, second, third, and fourth year; an *unclassified* category is used for students whose class status is undetermined during a given quarter/semester. The following table illustrates how these data may be formated.

(Note to Publisher: Reduce Table III and insert here.)

TABLE III

STUDENT CLASSIFICATION PROFILE (FULL-TIME UNDERGRADUATE) FALL, 1975

	BLACK		AMERICAN INDIAN		ASIAN AMERICAN		SPANISH AMERICAN		WHITE		FOREIGN		UNKNOWN		TOTAL	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F		
ST YEAR *******	326	384	57	48	51	45	29	35	3063	2618	129	81	509	329	7704	
f Total	43.2%		38.7%		32.0%		30.3%		30.3%		32.5%		39.7%		32.2%	
OND YEAR ********	141	189	18	14	22	35	15	15	1845	1632	81	38	224	143	4412	
of Total	20.1%		11.8%		19.0%		14.2%		18.5%		18.4%		17.4%		18.4%	
IRD YEAR ********	123	164	27	14	37	31	29	18	1974	1565	74	48	249	171	4524	
of Total	17.5%		15.9%		22.7%		22.3%		18.9%		18.8%		19.9%		18.9%	
URTH YEAR *********	83	109	28	18	28	27	27	16	2382	1766	82	44	141	92	4843	
of Total	11.7%		17.01%		18.3%		20.4%		22.1%		19.5%		11.0%		20.2%	
CLASSIFIED **********	56	67	24	23	14	10	12	15	1052	855	43	27	141	110	2449	
of Total	7.5%		16.6%		8.0%		12.8%		10.2%		10.8%		12.0%		10.2%	
OTAL FULL - TIME NDERGRADUATES	729	913	154	117	152	148	112	99	10316	3436	409	238	1264	845	13136	10796
	1642		271		300		211		18752		647		2109		23932	

Longitudinal Student Progression Profile

The ultimate goal for the majority of students enrolled in college is to graduate. Student progression profile data allow for monitoring both levels of minority student attrition within a particular class as well as evaluating the number of students progressing toward graduation. The collection and maintenance of these data are the key to providing the institution an accurate measure of its success or failure in retaining and ultimately graduating the minority students it enrolls.

(Note to Publisher: Reduce Table IV and insert here.)

TABLE IV

LONGITUDINAL STUDENT PROGRESSION PROFILE FOR FALL, 1974 UNDERGRADUATE MATRICULATING CLASS (1974-76)

	ASIAN AMERICAN	BLACK	SPANISH AMERICAN	AMERICAN INDIAN	WHITE	FOREIGN	UNKNOWN	TOTAL
FALL 1974								
First-time Freshmen	70	341	34	33	3962	125	610	5175
FALL 1975 STATUS								
A. Freshmen	16 (23)	146 (43)	12 (35)	9 (27)	1163 (30)	46 (37)	203 (33)	1595 (31)
B. Sophomores	42 (60)	102 (30)	11 (32)	14 (43)	2072 (52)	51 (41)	189 (31)	2481 (48)
TOTAL (Enrolled)	58 (83)	248 (73)	23 (68)	23 (70)	3235 (82)	97 (78)	392 (64)	4076 (79)
NOT ENROLLED								
A. Academic dismissal	4 (6)	47 (14)	1 (3)	2 (6)	122 (3)	6 (5)	29 (5)	211 (4)
B. Other	8 (1)	46 (13)	10 (29)	8 (24)	605 (15)	22 (17)	189 (31)	888 (17)
TOTAL (Not enrolled)	12 (17)	93 (27)	11 (32)	10 (30)	727 (18)	28 (22)	218 (36)	1099 (21)

1. Numbers in parentheses indicate Spring Status as a percentage of Fall 1974 registration.

TABLE IV (Cont.)

LONGITUDINAL STUDENT PROGRESSION PROFILE FOR FALL, 1974 UNDERGRADUATE MATRICULATING CLASS (1974-76)

	ASIAN AMERICAN		BLACK		SPANISH AMERICAN		AMERICAN INDIAN		WHITE		FOREIGN		UNKNOWN		TOTAL	
SPRING 1976 STATUS																
A. Freshmen	2	(3)	33	(10)	4	(12)	1	(3)	122	(3)	4	(3)	38	(6)	204	(4)
B. Sophomores	49	(70)	183	(55)	18	(53)	20	(61)	2785	(70)	79	(63)	291	(48)	3430	(66
C. Juniors	6	(9)	3	(1)	1	(7)	-		102	(3)	6	(5)	13	(2)	131	(3
TOTAL ENROLLED	57	(81)	224	(66)	23	(68)	21	(64)	3009	(76)	89	(71)	342	(56)	3765	(73
NOT ENROLLED	13	(19)	177	(34)	11	(32)	12	(36)	953	(24)	36	(29)	268	(44)	1410	(27
A. Academic dismissal	5	(7)	57	(17)	1	(3)	2	(6)	190	(5)	7	(6)	47	(8)	309	(6
B. Other	8	(11)	60	(18)	10	(29)	10	(30)	763	(19)	29	(23)	221	(36)	1101	(21

Graduation Rates

As indicated above, graduation data are collected and reported in order to measure the extent to which minority students realize their ultimate collegiate career objective. These data should reflect the graduation status of minority students by academic division and department throughout the institution. An example of how these data can be shown is provided in the following table.

(Note to Publisher: Reduce Table V and insert here.)

TABLE V

GRADUATION RATES BY DIVISION

Spring, 1976

DIVISION	BLACK	AMERICAN INDIAN	SPANISH AMERICAN	ASIAN AMERICAN	TOTAL MINORITY	UNIVERSITY TOTAL	MINORITY AS % UNIV. TOT
DIVISION: Life Sciences & Agriculture							
COLLEGE OF AGRICULTURE	1	1	0	1	3	162	1.8
OTHER	6	4	1	5	16	301	5.3
DIVISION: Engineering & Physical Sciences							
COLLEGE OF ENGINEERING	2	2	1	0	5	152	3.3
OTHER	1	1	0	1	3	90	3.3
DIVISION: Social & Behavioral Sciences							
COLLEGE OF BUSINESS & MGMT.	8	5	1	5	19	38	5.0
OTHER	39	4	4	6	53	581	9.1
DIVISION: Arts & Sciences							
COLLEGE OF ARCHITECTURE	1	0	1	1	3	25	12.0
COLLEGE OF JOURNALISM	3	0	0	1	4	61	6.6
OTHER	25	6	5	4	40	461	8.7
DIVISION: Human Resources							
COLLEGE OF EDUCATION	15	3	5	4	27	387	7.0
COLLEGE OF HUMAN ECOLOGY	13	1	3	2	19	194	9.8
COLLEGE OF PHYS. ED., HEALTH, RECREATION	0	1	0	0	1	70	1.4

Depending on the objectives of the office responsible for collecting and housing data, additional information in the area of student performance can be retrieved and maintained under a Student Performance Data System. Such data might include:

A. Grade Point Averages

1. University-wide total
2. University total by racial/ethnic group
3. Student class (i.e. freshman, sophomore, etc.) by racial/ethnic group
4. Student college (i.e., major area) by class by racial/ethnic group

B. End of Course Grades and Grade Distributions (Number and Percentage of *A*'s, *B*'s, *C*'s, *D*'s, *F*'s, Incompletes, etc. Received in a Given Academic Semester/Quarter)

1. University-wide total
2. University total by racial/ethnic group
3. Student class by racial/ethnic group
4. Student college by racial/ethnic group
5. Student college by class by racial/ethnic group

C. Course Completion Rates (Percentage of Total Number of Courses Completed With a Passing Grade of *A*, *B*, *C*, *D*, or *P*ass by End of the Academic Semester/Quarter)

1. University-wide total
2. University total by racial/ethnic group
3. Student class by racial/ethnic group
4. Student college by racial/ethnic group
5. Student college by class by racial/ethnic group

D. Entering Achievement Information

1. High school percentile rank
2. ACT/SAT scores

The preceding suggested categories are minimum recommendations and are not meant to be all inclusive.

In order to capture data on students leaving the institution for non-academic reasons and to establish a more balanced data

retrieval system, colleges choosing to implement the Data-Driven Retention Model--should establish well defined procedures for students exiting the institution via this route. At the minimum these exit procedures should include:

1. The completion of an official withdrawal form;
2. An exit interview with a sensitive and knowledgeable advisor;
3. Completion by the student of a brief questionnaire designed to gather data regarding the student's reason for leaving (e.g. financial, health, military service, transferring to another institution, etc.); assessment of quality of instruction, advising, and other academic support services; satisfaction/dissatisfaction with course offerings; plans to return; number of previous withdrawals, etc.

Aggregate non-academic data gathered through this exit interview procedure can then be combined with data retrieved on the academic reasons students leave to provide a more complete profile of the institution's attrition data for specific periods.

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COMPUTERIZED ACADEMIC MONITORING SYSTEM (CAMS)

Function

An essential element in the data-driven retention model is the early identification of minority students experiencing academic difficulty. The *Computerized Academic Monitoring System* serves as an *early alert system* to identify students in danger of academic failure and to suggest avenues of assistance available--from tutorial services to academic advising and personal counseling.

Whereas a student often *belatedly* acknowledges the existence of academic difficulty and/or waits to seek assistance until the last one-third of the term, the Academic Monitoring System has the unique advantage of being an early and positive action initiated by the university on behalf of the student; however, the system depends upon staff follow-up and student follow-through for any actual benefit to accrue. Specifically, the system provides for:

- Instructor identification of students with a *D* or *F* at end of first one-third of term in select problem courses
- Letter(s) sent to students from division, department, and/or Minority Affairs Office, expressing concern about student's academic performance and indicating specific tutorial and advising resources available, including names, office locations, and schedules
- Follow-Up/Evaluation

The Academic Monitoring System incorporates into its operation several factors which can serve to reduce student attrition.

Research has shown, for example, that the lower the student's academic class standing, the greater the possibility of his dropping out of college. Further, a student who is undecided as to his major is more drop-out prone than is a student who has made a career decision. (Noel, 1976) *Isolation* is itself a primary reason why students leave college; for minority students in predominantly white institutions, this problem of "isolation" or "alienation" is often intensified. Compounding this problem is the fact that the majority of all minority students in higher education are first-generation college. Finally, a minority student is less likely than his white counterpart to turn to a "traditional counselor" when academic or personal difficulties arise. (Sedlacek, 1976)

Conversely, however, student perception of a caring attitude on the part of the university can serve to counteract feelings of loneliness or depression. Further, provision of mandatory counseling, advising, and tutorial/study skills work *is* viewed by students who are performing poorly as part of institutional "caring" or "concern." (Kay, 1972) Equally important is the presence of a strong support person or *significant other* within the student's campus life; this individual may be an advisor, counselor, faculty member, or supervisor on a part-time job. (Spring Arbor College, 1974) The Academic Monitoring System works to create a supportive environment by 1) identifying students in academic difficulty, 2) offering them a wide range of academic support services, and 3) providing faculty/staff follow-up. Simply, each student is put in touch with one or more

individuals who offer him/her academic assistance and psychological support on an ongoing basis.

Implementation

Implementation of the Computerized Academic Monitoring System may vary from one institution to another. The following steps outline recommended implementation procedures. The examples of Institution A and Institution B illustrate modifications made by two universities to accommodate systemic differences and needs.

Step 1: Solicit Support of University Administrators

The support of the Chancellor and Vice Chancellor for Academic Affairs is essential for implementation of the monitoring system. A letter from the Chancellor should be sent informing provosts, academic deans, and departmental chairpersons of his/her commitment to CAMS. Following the letter, the Director of the Minority Affairs Office should then convene a meeting of the academic deans and data processing personnel to explain the purpose and scope of CAMS as it relates to minority student retention and to outline criteria for the selection of problem courses to be monitored. A follow-up letter is then sent to the deans, requesting that they in turn apprise faculty who teach the monitored courses of the function of CAMS and solicit their full cooperation in the project.

Step 2: Select Academic Courses to Be Monitored

Specific criteria used in selecting problem courses for academic monitoring include the following:

a. Courses which show a high failure rate for *all* students
b. *Required* courses which are *introductory* in nature

c. Courses which enroll a significant number of minorities

Taking into consideration the potential number of students involved, the technological capacity of the institution, and the available academic support services personnel necessary to provide the CAMS follow-up, a final decision is then made as to which and how many courses will be monitored.

Institution A: Within this university, the administrative decision was made to monitor the academic performance of *all* students in 35 select *problem* courses. Among those selected were:

ASTR 100
BMGT 220, 220A, 221, 221A
BOTN 101
CHEM 101, 103, 104, 261
ENES 101, 110
ENGL 101, 104, 105, 106
FREN 101, 103, 104
JOUR 201
MATH 105, 110, 111, 115, 140, 141, 220, 221, 246
PHYS 121, 122, 141, 142, 161, 262, 263
SPAN 101, 103, 104
STAT 100
ZOOL 101

Note: 200 level courses monitored fit above selection criteria.

Institution B: In this institution, the administrative decision was made to monitor the academic performance of *all Special Services Program students* enrolled in 50 select *problem* courses.

Step 3: Institute Data Formating and Data Gathering Processes to Be Used In Academic Monitoring System

Initiated at the first meeting of deans and data processing personnel, this step entails the design of a precise, streamlined instrument for data collection, using not more than six abbreviated indices of academic performance and causative factors. Also, appropriate data transmission points and dates are determined,

considering the length of the academic term and the time needed for staff/faculty follow-up and student follow-through.

Institution A: The Data Processing Center generates two identical decks of IBM class cards for faculty of designated problem courses (one for CAMS and one for reporting final grades). At the end of the *fifth* or *sixth* week of the semester, instructors of the designated problem courses are simply asked to pull the class cards of all students presently making a *D* or *F* in the course and return them to the Data Processing Center. The Center then generates a list showing the names of students experiencing academic difficulty and the particular course(s) in which they are enrolled. A copy of this list is sent to the Minority Affairs Director, the divisional academic deans, and the departmental chairpersons.

Institution B: This university uses a CAMS feedback form, designed by special services and data processing personnel, for obtaining the names of Special Services Program students experiencing academic difficulty and for having faculty indicate possible causes, such as absences, failure to complete required assignments, etc. At the end of the *fourth* week of the quarter, Data Processing generates a CAMS feedback form for each SSP student in each class that is being monitored; these forms are sent to the respective course instructors. Faculty fill out and return CAMS feedback forms on students making *lower* than a *C*. The SSP Office, upon receiving these forms, transmits them to the assigned academic advisors of the students concerned.

Step 4: Send Letter(s) to Students from Vice Chancellor for Academic Affairs/Minority Affairs Director, Divisional Dean, and/or Departmental Chairperson

Institution A: Each student experiencing academic difficulty in any of the monitored courses receives two or more letters from university administrators. These letters express concern about the student's academic performance and refer him/her to available tutorial, advising, and study skills resources.

Example: A minority student who is experiencing academic difficulty in freshman composition will receive a letter of concern from the Associate Dean of Liberal Arts. Enclosed within the same envelope will be a separate letter from the English Department Chairperson who indicates specific actions the student may take to improve his/her performance in English 101. These include contacting the instructor for assistance, utilizing the services of the English Tutoring Laboratory, and scheduling an appointment with an English Academic Advisor.

The student will receive a separate letter from the Minority Affairs Director who also expresses concern about the student's academic performance, provides a list of academic support services available within the Minority Affairs Office and across campus, refers the student to a Minority Peer Advisor in the appropriate academic division, and invites the student to come into the Minority Affairs Office for further assistance.

Institution B: Each Special Services Program student experiencing academic difficulty in courses monitored receives a letter from the SSP Director, strongly recommending that the student set up an appointment with his SSP Advisor for further discussion and assistance.

Note: All letters from within Institutions A and B include specific information: names of resource persons, buildings and rooms in which they are located, telephone numbers, and such schedule information as tutoring hours, conference times, etc.

Step 5: Follow-Up Initiated by Academic Support Services Personnel

In the final analysis the degree to which CAMS assists students in improving their academic performance depends in large part upon the *quality* of the academic services provided as well as the *quantity* of students served. This translates into the degree to which the university assumes responsibility for the performance of these key personnel through appropriate training and evaluation; and, finally, the degree of knowledge, sensitivity, creativity, and persistence these academic support personnel display in fulfilling their job responsibilities.

For its effective functioning the Academic Monitoring System depends on specific follow-up procedures initiated by academic support personnel and key administrators. As illustrated in Institutions A and B, academic support personnel and organizational structure may vary, but the essential services performed do not. These include:

Key Follow-Up Elements

- Personal Contact with Students
- In-Take Interview and Problem Assessment
- Referral System
- Academic Skills Improvement Resources
- Data Collection, Reporting, Evaluation

Institution A: The advising network with which the monitoring system interfaces has two facets: 1) sensitive, knowledgeable divisional and/or departmental advisors, and 2) minority peer advisors uniquely trained in a peer advising course. Although this multi-level network varies from division to

division, two basic systems exist.

The first, utilized in the Sciences and Engineering Division, employes an inverted funnel system in order to more effectively monitor the referral process. All students experiencing academic difficulty are initially channeled into the division office where there are several key faculty/administrative advisors (preferably from departments with the highest number of students in academic difficulty) and a minority peer advisor. If after the initial interview an advisor determines that further referral is necessary, he/she may send the student to a departmental advisor or tutor. At this entry point into the referral system, minority students may choose to talk with a peer advisor, a faculty advisor, or both. In contrast, within the College of Liberal Arts, students are immediately directed to the departmental level for academic advising.

A unique element of this system is the role played by minority peer advisors. The Minority Advisement Program (MAP) has as its foundation an especially created *academic survival* course, whose purpose is to acquaint students with important academic requirements, administrators, university regulations, and supportive services so that they become knowledgeable users of university resources and feel confident to handle system-related problems. A select number of students who successfully complete the course are hired to work as minority peer advisors and assigned to either the Minority Affairs Office or an Academic Divisional Office.

Divisional minority peer advisors provide general academic advising and referrals, including tutorial and financial aid. Most importantly to the Academic Monitoring System, they attempt to personally contact each minority student within their division who has been identified as having academic difficulty and to encourage them to come in for academic advising. These peer advisors offer a meaningful, viable alternative for those minority students who might otherwise be reluctant to use divisional advisement services.

Institution B:

Academic Advisors: A majority of the SSP students experiencing academic difficulty respond to the SSP Director's letter and contact their advisor for an appointment. If a student does not, the advisor telephones personally and suggests that the student would benefit from academic counseling and referral to more *individualized* forms of instruction. When the student meets his scheduled appointment, the academic advisor attempts to assist the student in ascertaining the cause(s) of the difficulty and in determining appropriate steps to solve or alleviate the underlying problem(s). So that the student may make an informed decision, the advisor always presents such vital information as drop/add deadlines, guidelines for maintaining financial aid eligibility, and institutional requirements for academic good standing.

Specific recommendations and/or advisor-initiated actions might consist of 1) advisibility of a student/instructor

conference; 2) need for academic skills specialist; 3) feasibility of dropping problem course and adding another course; 4) advisor contact with instructor to clarify cause of student's academic difficulty; or 5) suggestion of additional counseling, e.g. follow-up academic advising, career advising, or personal counseling.

The advisor records the results of each student interview on a CAMS follow-up form, which includes student name; address; telephone number; student i.d.; course(s) in which student is having difficulty; specific referrals made, recommendations given, or advisor actions taken; and advisor comments.

Academic Skills Specialists: Academic skills specialists, for many students, are the heart of the monitoring system in the remediation function they serve and the psychological support they provide. These support personnel utilize a follow-up system similar to that of the advisors. Data from CAMS follow-up forms enable them to know precisely which students have been referred to them. Skills specialists may thus serve those students who do follow through on advisor referrals, and they may also telephone or personally contact those who fail to do so.

In the initial tutorial session, skills specialists not only discern basic academic problem areas, but also work to actively engage the student in *positive* patterns of academic improvement, such as setting up regularly recurring

tutorial sessions and drawing up a reasonable study schedule. In this way, skills specialists assist students in acquiring a more systematic and consistent approach to improving their academic performance, rather than allowing students to use academic support personnel as "one-shot" problem solvers (e.g. "correcting" the rough draft of an English composition or determining key test material and drilling the student on it). Finally, skills specialists record the results of student in-take sessions on a tutorial assistance form, one copy of which remains in the student file while the other is forwarded to the Academic Unit Head for data compilation purposes, such as number of students served, type and number of courses tutored, etc.

Step 6: Key Administrators Produce Academic Monitoring System Evaluation Report for Use in University-Wide Planning

The final step in the CAMS is to determine the system's effectiveness in assisting academically-troubled students and to make recommendations for university systemic changes based on "problem spots" identified by CAMS data analysis. (Data compilation and analysis may be done solely by key administrative personnel, or institutions may prefer to have advisory and tutorial unit heads complete initial compilation and analysis before forwarding the results.) In either case, the data compiled and formated would include such elements as:

- Number and percentage of students experiencing academic difficulty who utilized (a) academic advising and (b) tutorial services as a direct result of the CAMS letters from top administrators or follow-up calls by academic support personnel

- Frequency with which students experienced academic difficulty in specific disciplines and individual courses
- Type of referrals made or recommendations given and their frequency, such as tutorial assistance, career counseling, dropping of problem course, etc.
- A frequency distribution as to the number and type of tutorial sessions utilized by individual students

Institution A: In Institution A, data compilation, analysis, and evaluation is being done by the Minority Affairs Director on minority students experiencing academic difficulty. CAMS divisional and/or departmental advisors and minority peer advisors forward the CAMS follow-up forms directly to the Minority Office. An analysis of tutorial usage available through the Minority Affairs Office is done; however, no consistent tutorial data from departments or divisions are presently available for analysis.

Institution B: Since only Special Services Program students are being monitored, both advising and tutorial data can be consistently compiled and analyzed. Both advisors and skills specialists forward the CAMS follow-up forms and tutorial assistance forms directly to the SSP Research Assistant for analysis.

At both institutions after each academic term, the Minority Affairs Director/SSP Director is responsible for producing a final report which includes both data analysis and recommendations based on the identification of "problem spots" within the system. For example, CAMS data analysis might indicate a need for additional tutorial resources in heavily enrolled courses which have a high rate of

students experiencing academic difficulty. Or such an evaluation might reveal the need for more academic advising than faculty in a particular department can provide; hence, the recommendation might urge funding for providing two to three professional full-time advisors for that department.

The First National Minority Retention Workshop

This model was used at "The First National Minority Student Retention Workshop" in Atlanta, Georgia on November 7-9, 1979. The workshop was indicative of the growing awareness across the nation of the critical importance of this educational area. Approximately four hundred educators from thirty-eight states attended the three-day workshop. Institutions represented included predominantly white and historically black four year colleges and universities, community colleges, technical institutions, medical schools, and national agencies and educational associations. Eighty-five institutions indicated an interest in and commitment to implementing the entire retention model or several of its individual components.

CONCLUSION

In calling for new strategies in the use of data for monitoring the enrollment, retention, and academic status of minority students in predominantly white institutions, certain areas have been given priority. The following list of recommendations was provided as a guide for workshop participants who wish to address, in a comprehensive manner, the problem of minority student retention within their institution:

1. Establish a system for determining enrollment, good standing, probation, and academic dismissal rates for each academic unit, i.e. division, department, etc.

2. Develop a system for the early identification of students experiencing academic difficulty (D or F) in specific courses during the first one-third of the term.
3. Establish a follow-up communication system for contacting students who experience academic difficulty and those who are on academic probation.
4. Set up campus-wide academic articulation and retention committees for the development of strategies aimed at enhancing the recruitment, retention, and graduation rates of minority students within individual divisions and departments. The emphasis of the committees should be determined by needs, as dictated by available data in the above categories.
5. Conduct a campus-wide minority retention workshop that focuses on concerns identified by the articulation/retention committees.
6. Develop a *central* comprehensive and sensitive exit monitoring system for acquiring information on the non-academic reasons students leave the institutions.

The preceding recommendations are not intended to completely resolve the problem of minority student attrition at predominantly white colleges and universities. However, if they are pursued with strong commitment and effective organization, they should significantly improve the *retention* and *graduation* rates of minority students in these institutions.

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